



TEXAS
Health and Human
Services

**Texas Department of State
Health Services**

Lung Cancer Treatment Information From the National Cancer Institute

Introduction	2
Treatment Options	2
Doctors Who Treat Lung Cancer	3
Second Opinion	4
Surgery	5
Radiation Therapy.....	5
Chemotherapy	7
Targeted Therapy	8
Other Treatment Options	9
Complementary and Alternative Medicine (CAM)	9
Treating Cancer Pain	10
Tobacco Facts	11
Free Help to Quit Smoking.....	11
For More Information from the National Cancer Institute	12
Related Publications from the National Cancer Institute	13
Lung Cancer Resources	14
Survivorship/Support.....	14

The information presented in this document is not intended as a substitute for medical care.

Please talk with your doctor about your individual needs.

Introduction

The information in this document was adapted from the National Cancer Institute (NCI) booklet ***What You Need to Know about Lung Cancer*** (NIH Publication No. 12-1553). It is written for patients and provides an overview of lung cancer treatments. Learning about medical care for people with lung cancer can help you take an active part in making choices about your own care.

Additionally, this document contains a list of questions that you may want to ask your doctor. Many people find it helpful to take a list of questions to a doctor visit. To help remember what your doctor says, you can take notes or ask whether you may use a tape recorder. You may also want to have a family member or friend with you when you talk with the doctor - to take part in the discussion, to take notes, or just to listen.

Treatment Options

People with lung cancer have many treatment options. Treatment options include:

- Surgery
- Radiation therapy
- Chemotherapy
- Targeted therapy

The treatment that's right for you depends mainly on the type and stage of lung cancer. You may receive more than one type of treatment.

At any stage of lung cancer, care is available to control pain and manage breathing problems, to relieve the **side effects** of treatment, and to ease emotional concerns. You can get information about coping with symptoms and side effects on NCI's website at <http://www.cancer.gov/cancertopics/coping>.

Also, you can get information about coping from NCI's Cancer Information Service at [1-800-4-CANCER](tel:1-800-4-CANCER) (1-800-422-6237). Or, chat using NCI's instant messaging service, LiveHelp (<https://livehelp.cancer.gov>).

Doctors Who Treat Lung Cancer

Your health care team will include specialists. There are many ways to find doctors who treat lung cancer:

- Your doctor may be able to refer you to specialists.
- You can ask a local or state medical society, or a nearby hospital or medical school for names of specialists.
- NCI's Cancer Information Service can give you information about treatment centers near you. Call 1-800-4-CANCER (1-800-422-6237). Or, chat using LiveHelp (<https://livehelp.cancer.gov>), NCI's instant messaging service.
- Other sources can be found in the NCI fact sheet How To Find a Doctor or Treatment Facility If You Have Cancer.

Your health care team may include the following specialists:

- **Chest surgeon:** A chest surgeon (**thoracic surgeon**) specializes in **surgery** on the lungs and other organs inside the chest. You may wish to find an expert in lung cancer surgery.
- **Thoracic surgical oncologist:** A **thoracic surgical oncologist** is a surgeon who specializes in surgeries on lung tumors and other tumors found inside the chest.
- **Medical oncologist:** A **medical oncologist** is a doctor who specializes in treating cancer with drugs, such as **chemotherapy** and **targeted therapy**.
- **Radiation oncologist:** A **radiation oncologist** is a doctor who specializes in treating cancer with **radiation therapy**.

Your health care team may also include an **oncology nurse**, a **social worker**, and a **registered dietitian**. If you have trouble breathing, your doctor may refer you to a **pulmonologist** (lung specialist) or a **respiratory therapist**.

Your health care team can describe your treatment options, the expected results of each option, and the possible side effects. Because cancer treatments often damage healthy cells and tissues, side effects are common. These side effects depend on many factors, including the type of treatment.

Side effects may not be the same for everyone, and they may even change from one treatment session to the next.

You and your health care team can work together to develop a treatment plan.

Lung cancer is hard to control with current treatments. For that reason, many doctors encourage people with this disease to consider taking part in a research study (**clinical trial**) of new treatment methods. Research studies are an important option for people with any stage of lung cancer.

Questions you may want to ask your doctor about treatment options

- What are my treatment options? Which do you recommend for me? Why?
- What are the expected benefits of each kind of treatment?
- What are the risks and possible side effects of each treatment? How can side effects be managed?
- What can I do to prepare for treatment?
- Will I need to stay in the hospital? If so, for how long?
- What is the treatment likely to cost? Will my insurance cover it?
- How will treatment affect my normal activities?
- Would a treatment research study be right for me?

Second Opinion

Before starting treatment, you might want a second opinion about your diagnosis and treatment options. Some people worry that the doctor will be offended if they ask for a second opinion. Usually the opposite is true. Most doctors welcome a second opinion. And many health insurance companies will pay for a second opinion if you or your doctor requests it. Some insurance companies actually require a second opinion.

If you get a second opinion, the second doctor may agree with your first doctor's diagnosis and treatment recommendation. Or, the second doctor may suggest another approach. Either way, you have more information and perhaps a greater sense of control. You can feel more confident about the decisions you make, knowing that you've looked at all of your options.

It may take some time and effort to gather your medical records and see another doctor. In most cases, it's not a problem to take several weeks to get a second opinion. The delay in starting treatment usually will not make treatment less effective. To make sure, you should discuss this delay with your doctor. Some people with lung cancer need treatment right away. For example, a doctor may advise a person with small cell lung cancer not to delay treatment more than a week or two.

Surgery

Surgery may be an option for people with early-stage lung cancer.

The surgeon usually removes only the part of the lung that contains cancer. Most people who have surgery for lung cancer will have the lobe of the lung that contains the cancer removed. This is a **lobectomy**. In some cases, the surgeon will remove the tumor along with less tissue than an entire lobe, or the surgeon will remove the entire lung. The surgeon also removes nearby lymph nodes.

After lung surgery, air and fluid will collect in the chest. A chest tube that was inserted during surgery will allow the fluid to drain. Also, a nurse or respiratory therapist will teach you coughing and breathing exercises. You'll need to do these exercises several times a day. The chest tube will be removed a few days after surgery.

The time it takes to heal after surgery is different for everyone. Your hospital stay may be a week or longer. It may be several weeks before you return to normal activities.

Medicine can help control your pain after surgery. Before surgery, you should discuss the plan for pain relief with your doctor or nurse. After surgery, your doctor can adjust the plan if you need more pain relief.

Questions you may want to ask your doctor about surgery

- What kind of surgery do you suggest for me?
- How will I feel after surgery?
- If I have pain, how can we control it?
- How long will I be in the hospital?
- Will I have any lasting side effects?
- When can I get back to my normal activities?

Radiation Therapy

Radiation therapy is an option for people with any stage of lung cancer:

- People with early lung cancer may choose radiation therapy instead of surgery.
- After surgery, radiation therapy can be used to destroy any cancer cells that may remain in the chest.

- In advanced lung cancer, radiation therapy may be used with chemotherapy.
- Radiation therapy can be used to help shrink a tumor that is blocking the airway.
- Radiation therapy can be used to help relieve pain from lung cancer that has spread to the bones or other tissues.
- Radiation therapy is often used to treat lung cancer that has spread to the brain.

The radiation comes from a large machine. The machine aims high-energy rays at your body to kill cancer cells. The treatment affects cells only in the area being treated, such as the chest area.

You'll go to a hospital or clinic for treatment. Treatments are usually 5 days a week for about 6 weeks. Each treatment session usually lasts less than 20 minutes.

Although radiation therapy is painless, it may cause other side effects. The side effects depend mainly on how much radiation is given and the part of your body that is treated. Ask your health care team to describe the side effects that you might expect during or after radiation therapy.

Radiation therapy aimed at the chest may cause a sore throat, cough, or shortness of breath. When you try to swallow, you may feel a lump in your throat or burning in your chest or throat. Your health care team can suggest ways to manage these problems. The problems usually go away when treatment ends.

It's common for the skin in the chest area to become red and dry and to get darker. Sometimes the skin may feel tender or itchy. Check with your doctor before using lotion or cream on your chest. After treatment is over, the skin will heal.

You're likely to become tired during radiation therapy, especially in the later weeks of treatment. Although getting enough rest is important, most people say they feel better when they exercise every day. Try to go for a short walk, do gentle stretches, or do yoga.

The NCI booklet *Radiation Therapy and You* has helpful ideas for coping with radiation therapy side effects.

Questions you may want to ask your doctor about radiation therapy

- When will treatment start? When will it end? How often will I have treatments?
- How will I feel during treatment? Will I be able to drive myself to and from treatment?
- What can I do to take care of myself before, during, and after treatment?
- How will we know the treatment is working?
- What side effects should I expect? What should I tell you about?
- Are there any lasting effects?

Chemotherapy

Chemotherapy may be used alone, with radiation therapy, or after surgery.

Chemotherapy uses drugs to kill cancer cells. The drugs for lung cancer are usually given directly into a vein (**intravenous**) through a thin needle.

You'll probably receive chemotherapy in a clinic or at the doctor's office. People rarely need to stay in the hospital during treatment.

The side effects depend mainly on which drugs are given and how much. Chemotherapy kills fast-growing cancer cells, but the drugs can also harm normal cells that divide rapidly:

- **Blood cells:** When drugs lower the levels of healthy blood cells, you're more likely to get infections, bruise or bleed easily, and feel very weak and tired. Your health care team will check for low levels of blood cells. If your levels are low, your health care team may stop the chemotherapy for a while or reduce the dose of the drug. There are also medicines that can help your body make new blood cells.
- **Cells in hair roots:** Chemotherapy may cause hair loss. If you lose your hair, it will grow back after treatment, but the color and texture may be changed.
- **Cells that line the digestive tract:** Chemotherapy can cause a poor appetite, nausea and vomiting, diarrhea, or mouth and lip sores. Your health care team can give you medicines and suggest other ways to help with these problems.

Other possible side effects include hearing loss, joint pain, and tingling or numbness in your hands and feet.

When radiation therapy and chemotherapy are given at the same time, the side effects may be worse.

Your health care team can suggest ways to control many of these problems. Most go away when treatment ends.

The NCI booklet *Chemotherapy and You* has helpful ideas for coping with chemotherapy side effects.

Targeted Therapy

People with non-small cell lung cancer that has spread may receive a type of treatment called targeted therapy. Several kinds of targeted therapy are used for non-small cell lung cancer. One kind is used only if a lab test on the cancer tissue shows a certain gene change. Targeted therapies can block the growth and spread of lung cancer cells.

Depending on the kind of drug used, targeted therapies for lung cancer are given intravenously or by mouth. The drug enters the bloodstream and can affect cancer cells all over the body.

During treatment, your health care team will watch you for side effects. You may get a skin rash, diarrhea, or mouth sores, or you may feel very tired. Other possible side effects include shortness of breath, belly pain, high blood pressure, vomiting, and swollen feet and hands. The side effects usually go away after treatment ends.

You may want to read the NCI fact sheet *Targeted Cancer Therapies*.

Questions you may want to ask your doctor about chemotherapy or targeted therapy

- Which drug or drugs do you suggest for me? What will they do?
- What are the possible side effects? What can we do about them?
- When will treatment start? When will it end? How often will I have treatments?
- How will we know the treatment is working?
- Will there be lasting side effects?

Other Treatment Options

Other treatments for lung cancer include:

- **Laser therapy:** A laser beam (a narrow beam of intense light) is used to cut and destroy cancerous tissue.
- **Photodynamic therapy:** Anticancer drugs and a special laser are used to destroy cancer cells. An inactive anticancer drug is injected into a vein (intravenously) and is taken up by the cancer cells. A fiberoptic tube is used to direct the laser to the cancerous tissue. The light from the laser activates the drug, killing the cancer cells.
- **Cryosurgery:** Abnormal tissue is frozen and destroyed. Cryosurgery is also known as *cryotherapy*.
- **Electrocautery:** A needle or probe is inserted into the tumor and then heated by an electric current. This destroys the abnormal tissue.
- **Watchful waiting:** Healthcare providers closely monitor a patient's condition

Complementary and Alternative Medicine (CAM)

CAM is any medical system, practice, or product that is not thought of as standard care. Standard medical care is care that is based on scientific evidence. For cancer, it includes chemotherapy, radiation, biological therapy, and surgery.

Complementary Medicine

Complementary medicine is used along with standard medical treatments. One example is using acupuncture to help with side effects of cancer treatment.

Alternative Medicine

Alternative medicine is used in place of standard medical treatments. One example is using a special diet to treat cancer instead of a method that a cancer specialist (an oncologist) suggests.

Integrative Medicine

Integrative medicine is a total approach to care that involves the patient's mind, body, and spirit. It combines standard medicine with the CAM practices that have shown the most promise. For example, some people learn to use relaxation as a way to reduce stress during chemotherapy.

For more information about CAM, you may find it helpful to read NCI's booklet, *Thinking about Complementary & Alternative Medicine: A Guide for People with Cancer*. Page 12 of this document tells you how to get NCI booklets.

Treating Cancer Pain

You don't have to accept pain.

People who have cancer don't always have pain. Everyone is different. But if you do have cancer pain, you should know that you don't have to accept it. Cancer pain can almost always be relieved. To order the NCI booklet *Pain Control: Support for People with Cancer*, please turn to page 13. The booklet's key points include:

- Your pain can be managed.
- Controlling pain is part of your cancer treatment.
- Talking openly with your doctor and health care team will help them manage your pain.
- The best way to control pain is to stop it from starting or keep it from getting worse.
- There are many different medicines to control pain. Everyone's pain control plan is different.
- Keeping a record of your pain will help create the best pain control plan for you.
- People who take cancer pain medicines as prescribed rarely become addicted to them.
- Your body does not become immune to pain medicine. Stronger medicines should not be saved for "later."

Pain specialists can help.

Cancer pain can be reduced so that you can enjoy your normal routines and sleep better. It may help to talk with a pain specialist. These may be oncologists, anesthesiologists, neurologists, surgeons, other doctors, nurses, or pharmacists. If you have a pain control team, it may also include psychologists and social workers.

Pain and **palliative care specialists** are experts in pain control. Palliative care specialists treat the symptoms, side effects, and emotional problems of both cancer and its treatment. They will work with you to find the best way to manage

your pain. Ask your doctor or nurse to suggest someone. Or contact one of the following for help finding a pain specialist in your area:

- Cancer center
- Your local hospital or medical center
- Your primary care provider
- People who belong to pain support groups in your area
- The Center to Advance Palliative Care, <https://getpalliativecare.org/> (for lists of providers in each state)

Tobacco Facts

Tobacco use is the leading cause of preventable illness and death in the United States. It causes many different cancers as well as chronic lung diseases, such as emphysema and bronchitis, and heart disease.

- Tobacco use is a leading cause of cancer and of death from cancer in the United States.
- Cigarette smoking causes an estimated 480,000 deaths each year, including approximately 34,000 deaths due to exposure to secondhand smoke.
- Smoking causes many other types of cancer, including cancers esophagus, larynx, mouth, throat, kidney, bladder, liver, pancreas, stomach, cervix, colon, and rectum, as well as acute myeloid leukemia.

(See [Tobacco Statistics Snapshot](#) for references for this information)

Free Help to Quit Smoking

National Cancer Institute's Smoking Quit Line

1-877-44U-QUIT (1-877-448-7848); and **1-800-QUIT-NOW**; TTY: **1-800-332-8615**

Talk with an NCI smoking cessation counselor for help quitting and answers to smoking-related questions in English or Spanish - call toll free within the United States, Monday through Friday 8:00 a.m. to 3:30 p.m. CST.

American Cancer Society's Quit Line (Texas only)

1-877-YES QUIT (1-877-937-7848)

Support for those in need of assistance with cessation of tobacco use, smoking and nicotine addiction. 24 hours a day/7days a week. Services are available in English and Spanish. Nicotine Replacement Therapy is available statewide with a physician's fax referral form (available at <http://www.dshs.texas.gov/tobacco>) and in selected communities without a fax referral form. Additional information is available at <http://www.yesquit.org/>.

Smokefree.gov offers tools, information, and support that have been proven effective in helping smokers quit <https://smokefree.gov/>.

Medicaid Clients: You can now receive cessation medications in addition to the three prescriptions allowed under Medicaid benefits. Please contact your doctor for information on which medication would be right for you.

For More Information from the National Cancer Institute

NCI provides publications about cancer, including the booklets and fact sheets mentioned in this document free of charge for newly diagnosed cancer patients. Many are available in both English and Spanish.

You can order them by telephone, fax, email, on the Internet, or by mail. You can also read them online and print your own copy.

- **By telephone:** People in the United States and its territories may order these and other NCI publications by calling the NCI's Cancer Information Service at **1-800-4-CANCER** (1-800-422-6237).
- **By fax:** Orders can be placed by fax at 1-410-646-3117.
- **On the Internet:** Many NCI publications can be viewed, downloaded, and ordered from <https://www.cancer.gov/publications> on the Internet. People in the United States and its territories may use this website to order printed copies. This website also explains how people outside the United States can mail or fax their requests for NCI booklets.
- **By mail:** NCI publications can be ordered by writing to the address below:

National Cancer Institute, NIH, DHHS
Publications Ordering Service
P.O. Box 24128
Baltimore, MD 21227

Related Publications from the National Cancer Institute

Cancer Treatment

- *Chemotherapy and You* (also available in Spanish: *La quimioterapia y usted*)
- *Radiation Therapy and You* (also available in Spanish: *La radioterapia y usted*)
- *How To Find a Doctor or Treatment Facility If You Have Cancer* (also available in Spanish: *Cómo encontrar a un doctor o un establecimiento de tratamiento si usted tiene cáncer*)
- *Targeted Cancer Therapies*
- *Photodynamic Therapy for Cancer* (also available in Spanish: *Terapia fotodinámica para el cáncer*)

Living with Cancer

- *Pain Control* (also available in Spanish: *Control del dolor*)
- *Coping With Advanced Cancer*
- *Facing Forward Series: Life After Cancer Treatment* (also available in Spanish: *Siga adelante: la vida después del tratamiento del cáncer*)
- *Taking Time: Support for People with Cancer* (also available in Spanish: *Tómese su tiempo: Apoyo para personas con cancer*)
- *When Cancer Returns*

Clinical Trials

- *Taking Part in Cancer Treatment Research Studies*

Complementary Medicine

- *Thinking about Complementary & Alternative Medicine: A guide for people with cancer*

Risk Factors

- *Secondhand Smoke and Cancer* (also available in Spanish: *El humo de tabaco en el ambiente y el cáncer*)
- *Radon and Cancer* (also available in Spanish: *Radón y cáncer*)

Quitting Smoking

- *Clearing the Air: Quit Smoking Today*
- *"Light" Cigarettes and Cancer Risk* (also available in Spanish: *Los cigarillos "light" y el riesgo de cáncer*)

Caregivers

- *When Someone You Love Is Being Treated for Cancer: Support for Caregivers*
- *When Someone You Love Has Advanced Cancer: Support for Caregivers*
- *Facing Forward: When Someone You Love Has Completed Cancer Treatment*

Lung Cancer Resources

American Cancer Society

Learn about different types of cancer, risk factors, prevention, treatment, and more. You can also read stories of hope from people whose lives have been touched by cancer and get the latest news. www.cancer.org or 1-800-ACS-2345 (1-800-227-2345).

American Lung Association

Use interactive decision support tools to learn about the pros and cons of lung treatment options. www.lungusa.org.

Lung Cancer Alliance

Lung Cancer Alliance is the only national non-profit organization dedicated solely to providing patient support and advocacy for people living with or at risk for the disease. www.lungcanceralliance.org.

Survivorship/Support

CancerCare

CancerCare is a national non-profit organization that provides free professional support services to anyone affected by cancer: people with cancer, caregivers, children, loved ones, and the bereaved. www.cancercares.org.

LIVESTRONG

LIVESTRONG helps anyone affected by cancer. Whether you have cancer or are a caregiver, family member or friend of someone diagnosed, **LIVESTRONG** will help you understand what to expect, teach you what questions to ask, learn about treatment options and give you one-on-one support along the way. www.livestrong.org.

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Please talk with your doctor about your individual needs.